Using Social Ecological Factors to Measure the Social Benefits of Leisure Activity on Senior Adults' Quality of Life (QOL): A Validation in 2013 National Senior Games

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Introduction

According to the U.S. Census Bureau (2002), 59.6 million or 14.7% of the total U.S. population were over 55 years old. In 2011, the number had increased to 76.1 million or 26.5% of the country's population (U.S. Census Bureau, 2011). With the increase in the senior population, their health and wellness issues have attracted attention among scholars, practitioners, and governmental agencies. Senior adults' quality of life (QOL) has become more prominent issues in the leisure and tourism literature.

Riddick and Stewart (1994) reveal that participation in leisure activity is vital for satisfactory QOL among the senior population. Silverstein and Parker (2002) also concur that senior people who are engaged in leisure activities are more likely to have higher QOL. In addition, many researchers have asserted that there are benefits of leisure activities among the senior population for their QOL such as improving physical health (Seeman et al., 1995), lowering stress levels (Patterson, 1996), reducing cognitive impairment risks (Wang, Karp, Winblad, & Fratiglioni, 2002), and enhancing mental well-being (Windle, Hughes, Linck, Russell, & Woods, 2010).

Despite the importance of leisure activities among the senior population, most existing studies have focused on the personal traits of leisure activity participants, such as identity,

motivation, physical health, stress, cognitive impairment, and mental well-being (Seeman et al., 1995; Patterson, 1996; Wang et al., 2002; Henderson & Ainsworth, 2003; Windle et al., 2010; Gow, Mortensen, & Avlund, 2012). Studies on the social benefits of leisure activities are relatively limited. The Social Ecological Theory (SET) can potentially provide an overarching framework for the understanding of the interrelations among diverse personal and environmental factors (i.e., intrapersonal, interpersonal, community, and organization) in human health and wellness (Stokols, 1996; Greson et al., 2001; Fleury & Lee, 2006).

The main purpose of the study is to examine and understand the effects of social ecological factors on leisure activity participation of the senior population. This study will develop a research model for understanding seniors' leisure activity as an explanation of social ecological framework based on social cognitive theory and the theory of planned behavior. Specifically, which social ecological factors (i.e., intrapersonal, interpersonal, community and organization) have more of a relationship and impact on seniors' leisure activity.

Literature Review

Social Ecological Theory (Framework)

The theoretical underpinnings of the study were derived from the Social Ecological Theory (SET). The SET comprises both individual factors and socially organized factors: intrapersonal, interpersonal, community and environmental, organizational, societal (Fleury & Lee, 2006; Li et al., 2012). The SET recognizes the multiple levels of influence as promoting the adoption and maintenance of physical activity rather than focusing on traditional intrapersonal factors (Banks-Wallace, 2000).

Fleury and Lee (2006) describe the "intrapersonal factor" as a personal trait: educational level, socioeconomic status, and motivational variables (i.e., knowledge, attitudes, belief) and motivation reflect self-regulation and self-efficacy. Li et al. (2012) indicate that the "interpersonal factors" are usually friends, family or activity partners and they influence positive motivation to increase physical activity level. The "community and environmental factor" is concerned with the facility sector and safety issues. Ainsworth, Wilcox, Thompson, Richter and Henderson (2003) reveal that some barriers to the community are lack of recreation facilities, insufficient sidewalks, unattended dogs, and insufficient street lighting. Fleury and Lee (2006) consider that the "organizational factors" are concerned with health promotion programs and supports behavior changes.

The Social-ecological perspective can play an important role to understand and identify determinants of leisure activity as an ecological framework including demographic, intrapersonal, interpersonal, and environmental and policy-related factors (Li et al., 2012). In addition, this perspective can be explained by other psychological models such as social cognitive theory and the theory of planned behavior (Bandura, 1989; Ajzen, 1991). This study will develop a research model for understanding the seniors' LTPA as an explanation of the Social Ecological Framework based on the social cognitive theory and the theory of planned behavior (Bandura, 1989; Ajzen, 1991).

Leisure Activity and the National Games

According to Iso-Ahola (1997), favorable effects of leisure activity include improving mental and physical functions, social interaction and high self-esteem. Lennartsson and Silverstein's (2013) study show that the leisure activity itself has protective mechanisms against mortality on the seniors. Senior people's leisure activity positively influences health-related

outcomes, cognitive function and depressive symptoms (Popa, Reynolds, & Small, 2009; Teychenne, Ball, & Salmon, 2008). Due to the benefits of leisure activity both mentally and physically, many senior people have chosen leisure activities; social supports (e.g., friends, family, community, organization) also can be an initial motivator to boost seniors' leisure activity (Fleury & Lee, 2006).

The National Senior Games, as an organizational event, is a good promotional program representing the relationship between personal behavior and social ecological factors. According to the National Senior Games Association (2013), the National Senior Games has been held bi-annually since 1987 to provide arena for senior adults (50 years and older) to participate in physical activities. The first Games, had only 15 sports (i.e., Archery, Badminton, Bowling, and Swimming) with 2,500 athletes who participated in the Games; the National Senior Games had gained more awareness and popularity in the last thirty years. It is anticipated that over 13,000 seniors would be present in the 2013 Games for 19 sporting games.

Since the Senior Games is not a one-shot event, this sports event provides regular leisure activity to its participants (Cardenas, Wilson, & Henderson, 2009). Cardenas et al. (2009) declared that Senior Games participants were motivated to take part in the games not only because these can make them more physically and socially active and improve their health and quality of life but can also provide them an enjoyable experience. Thus, participation in athletic events which are important to older adults will provide them with personal and social benefits (Smith and Storandt, 1997).

As many seniors will be participating the National Senior Games, the venue will provide the researchers an opportunity to conduct a research survey to understand seniors' leisure activity based on the Social Ecological Theory approach.

Purpose of Study and Method

To test the model, the scales that measure each variable in the model will be adopted from existing literature (Fleury & Lee, 2006; Li et al, 2012). The researcher of this study will measure each dimension on an individual and societal level (i.e., family, friend, community, & organization). The instrument for the study will be adopted from previous studies on the Social Ecological Model (Fleury & Lee, 2006; Li et al, 2012). Specifically, Li et al. (2012) conducted research on leisure time physical activity of black adults and how social support (i.e., family, friend, community, & organization) and perceived physical environment (i.e., community) affect the intrapersonal factor (i.e., self-regulation, self-efficacy). In this research, Li et al. (2012) revealed that higher levels of social support for leisure activity were related to higher levels of personal leisure behavior such as self-efficacy and self-regulation.

Data will be collected from the senior participants in the National Senior Games in Cleveland, Ohio from July 19 to August 1, 2013. This site was also chosen because the primary researcher will volunteer during the game season. Participants will be recruited in various sites including hotels at the game site and multiple event places. Undergraduate students will be hired to collect data. To protect anonymity, participants will not be asked to identify themselves by name on the questionnaire. To ensure a high return and a usable rate, magnifiers will be prepared for those who have poor vision. The data will be stored in SPSS 20, and further analysis on model fit and model relationships will be tested by Amos 18 software.

Expected Results

As the leisure industry is becoming more complex and influential for local residents, it is important to understand the relationship between individuals and the socio-ecological system. Since the social system can both directly and indirectly influence individuals' behavioral outcomes, we may identify which social ecological factors are the main function of leisure activity, and they may explain how the social system impacts senior leisure activity.

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